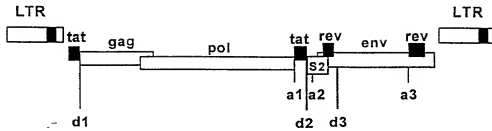
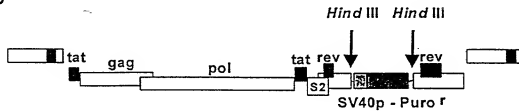


Figure 1

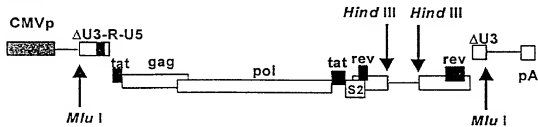
EIAV genome



pESP



pONY3



pONY2.1nls lacZ

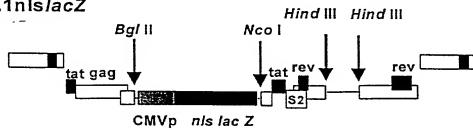
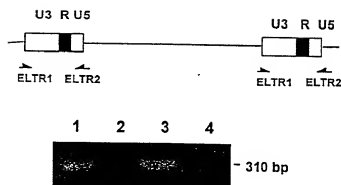


Figure 2

A. LTR



B. pol

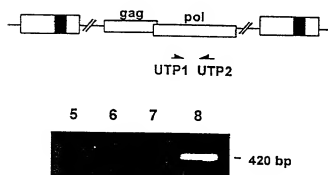
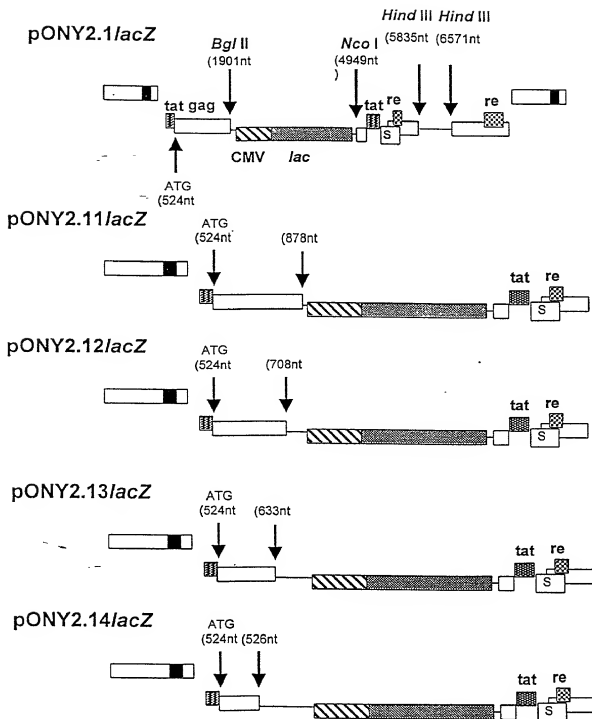
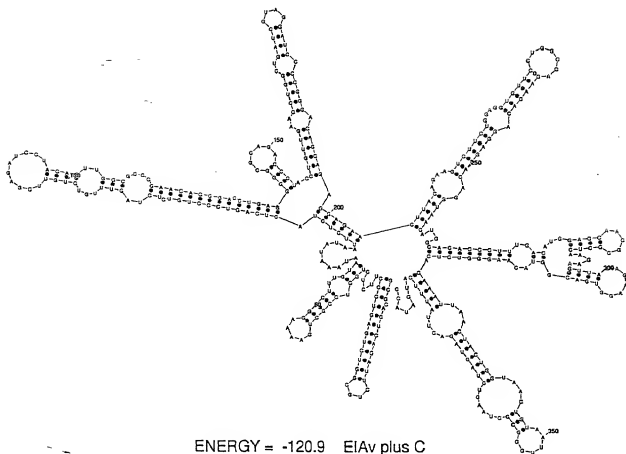


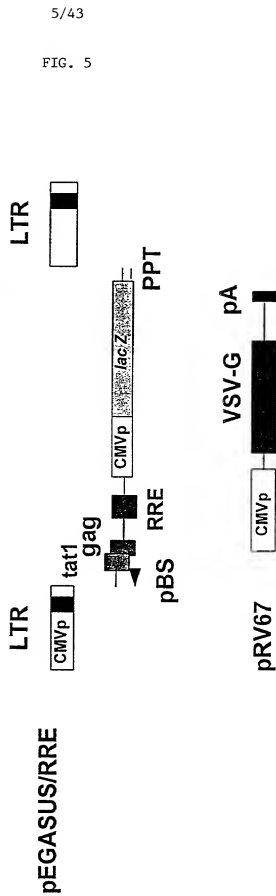
Figure 3



4/43
Figure 4

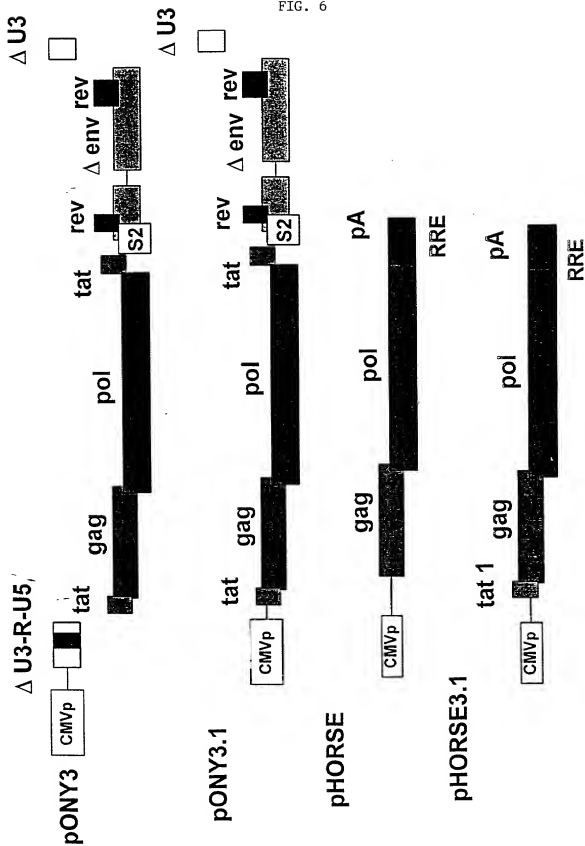


00067047.002004

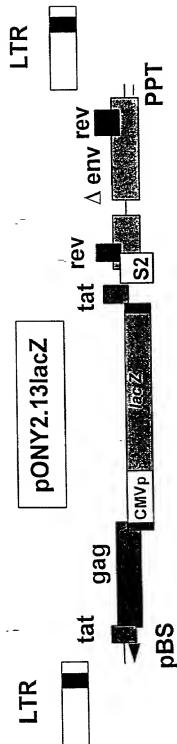


5/43

EIAV gagpol Constructs



EIAV Vector S2 Mutant



7/43

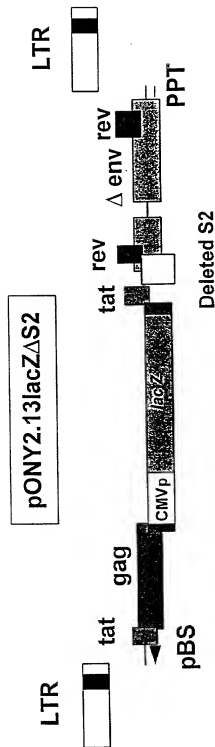


FIG. 7

EIAV gagpol S2 and dUTPase Mutants

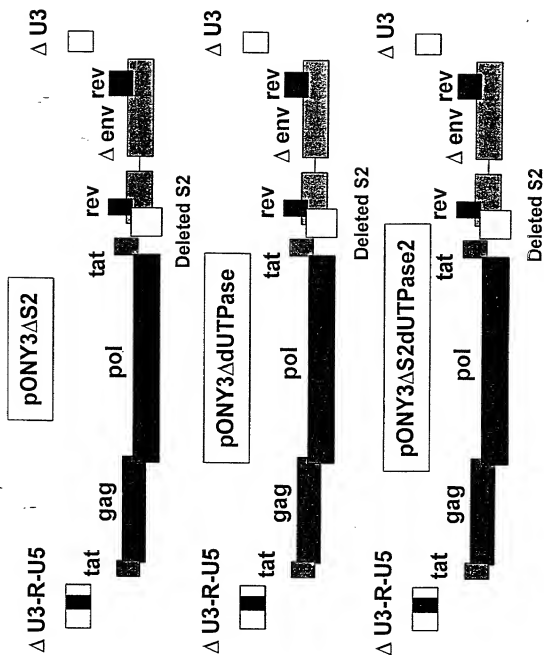
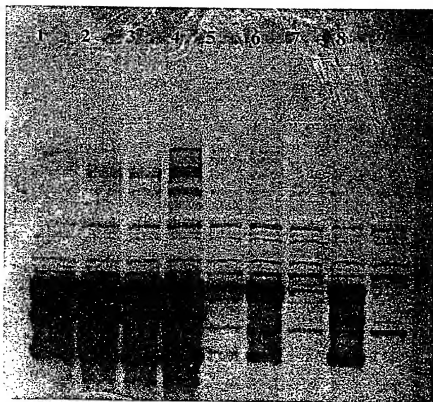


FIG. 8

FIG. 10



Titres
(i.f.u./ml)

1. pONY3.0 + pCI-Neo	(1.0×10^5)
2. pONY3.0 + pCI-Rev	(8.0×10^4)
3. pONY3.1 + pCI-Neo	(2.0×10^5)
4. pONY3.1 + pCI-Rev	(1.8×10^5)
5. pHORSE + pCI-Neo	(1.0×10^1)
6. pHORSE + pCI-Rev	(2.0×10^3)
7. pHORSE3.1 + pCI-Neo	(2.0×10^2)
8. pHORSE3.1 + pCI-Rev	(8.0×10^4)
9. pCI-Neo	(<1.0)

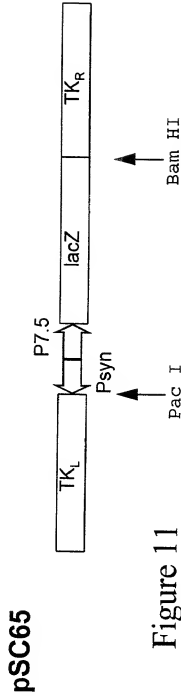
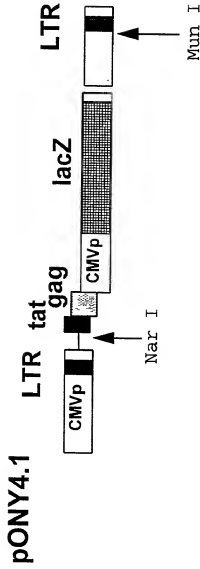
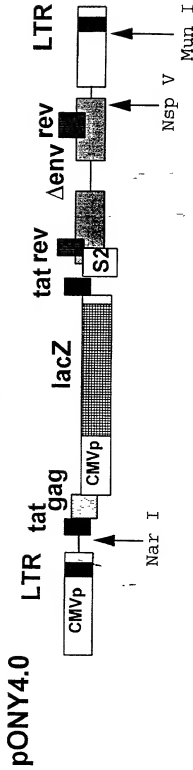


Figure 11

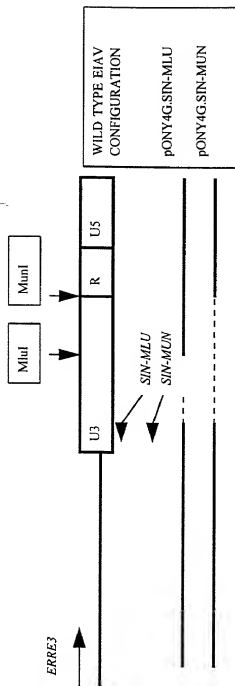


Figure 12

Figure 13

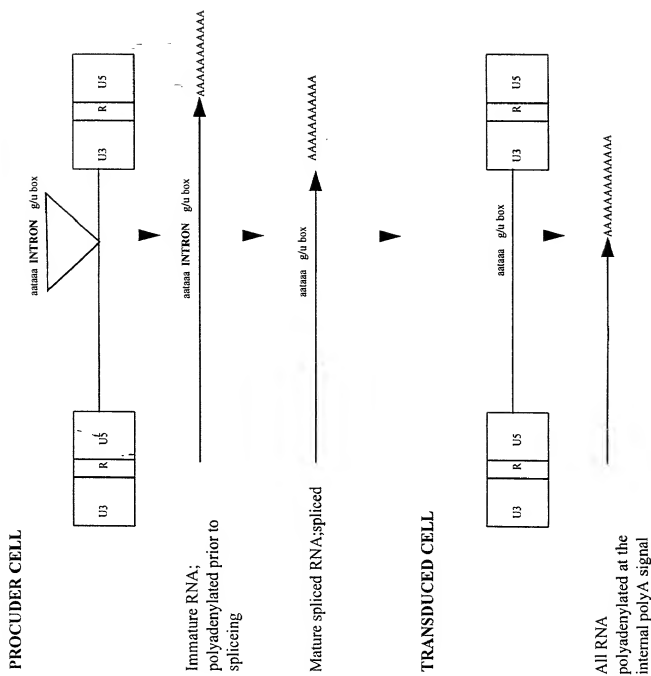
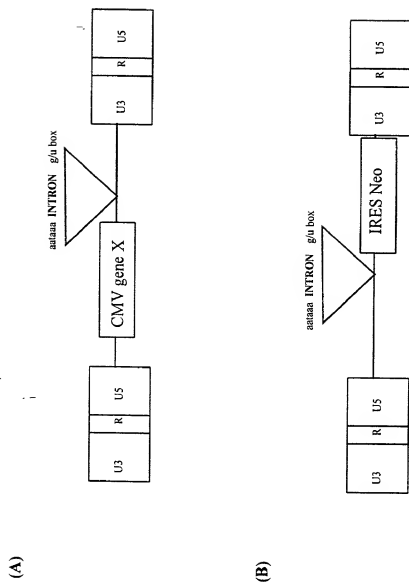
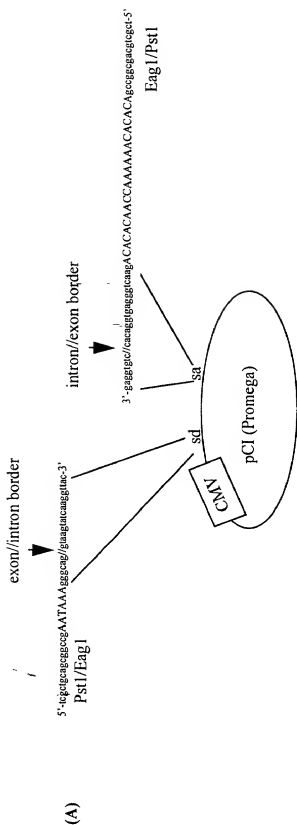


Figure 14





(B) AATAAgggcag/gtaag-----INTRON-----ctccacag/gtgcctcccccagttcTGTGTGTGGTTTTTTTGTGTGT

(C) AATAAgggcaggtgcctcccccagttcTGTGTGTGGTTTTTTTGTGTGT

aataaa 23 base pair space g/u box

Figure 15

Figure 16

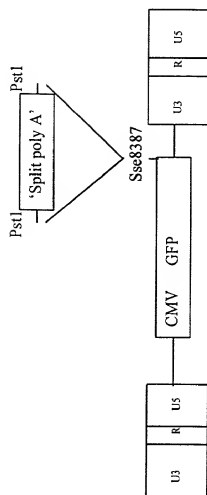


Figure 17

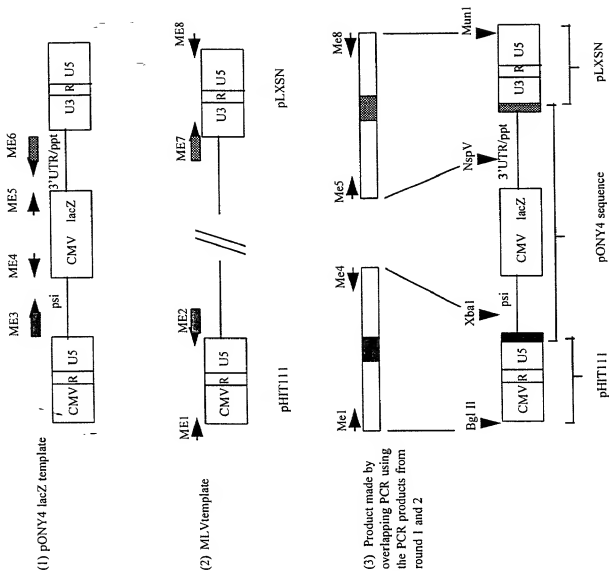


Figure 18

Me1 5'-tcgataagatcagagtcggttacataacttaagg-3'
 Me2 5'-gaticgaacagacaacactagagacaggagactgcaaacagcaagaggcttattaggg-3'
 Me3 5'-gtccctgtctctagttgtctgttcgagat-3'
 Me4 5'-ggggatccactaggttctciagagatatc-3'
 Me5 5'-ccttagacctgggagatcgaagcgaag-3'
 Me6 5'-ccaaacctacaggtgagggtcttcatttacaagggtatagagcatcagcaac-3'
 Me7 5'-aatgaaagagccccaccgtgtaggtttgg-3'
 Me8 5'-gtaggggtgcccattggccagtatacacctccgctatcgtctac-3'

Figure 19

Figure 20



The boxed sequence is the mutated TTTTAT sequence within U3.

Figure 21

EMVA5

CCCTC[ATGGAAG]CCCCACAGTTCCTCCCTTG

The boxed sequence is the mutated TTTTAT sequence within U3.

EMVA6

Bgl II

Mun I

CTGAGATCTGAATCTGAGTGC[CAATTG]CAG

EMVA7

Mun I

CTGCAATTG[GGCACTCAGATTC]

EMVA8

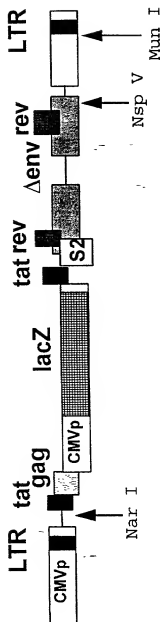
Bgl II

CATGAGATCT[AAAAAAA]GATGAGAGAATTATTTATTAC

The AAAAAAA sequence contains the termination signal (TTTTNT) for the early promoter.



pONY4.0



24/43

Termination sequence

pEMVA4

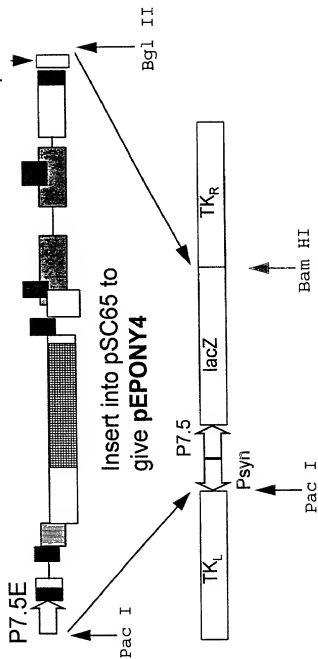


Figure 23

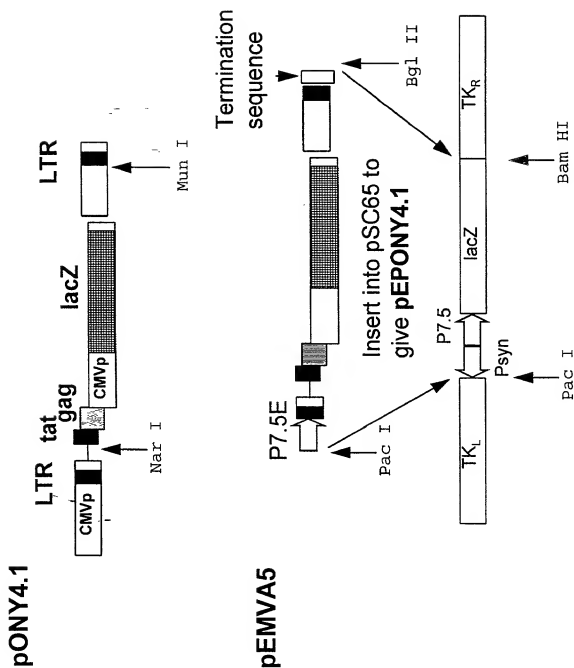


Figure 24

—

DATA

100

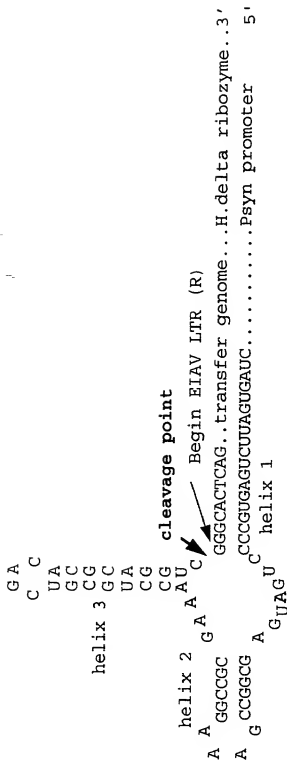
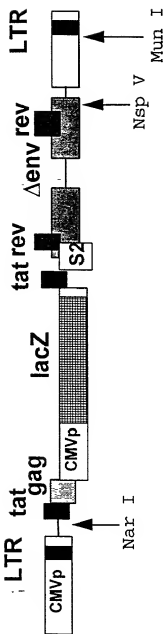


Figure 26

pONY4.0



Termination sequence

pEMVA6

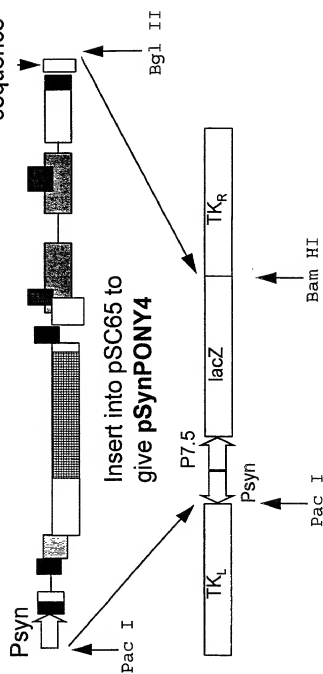


Figure 27

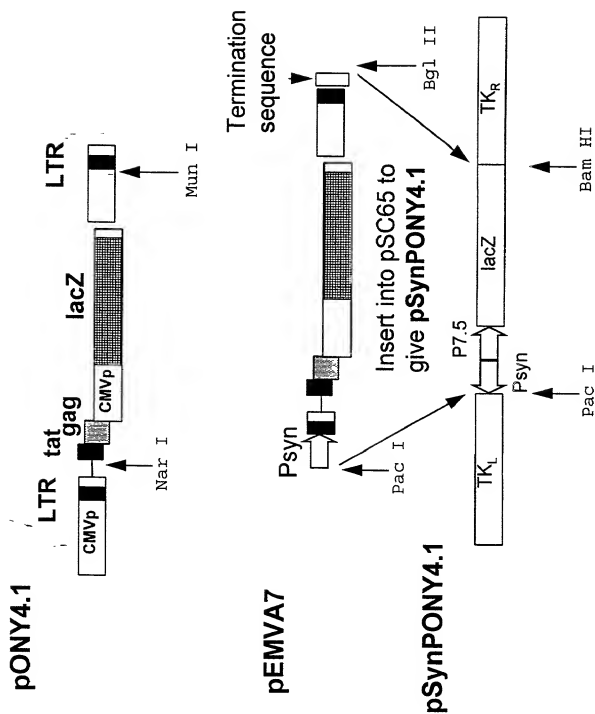


Figure 28

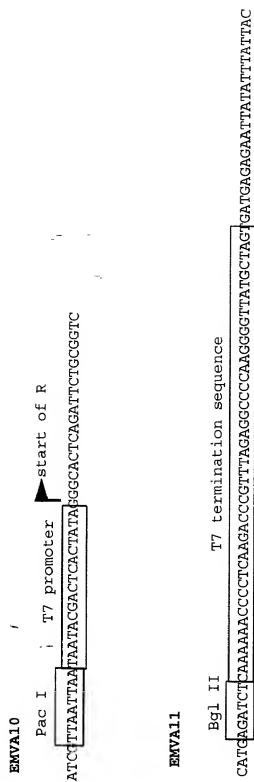
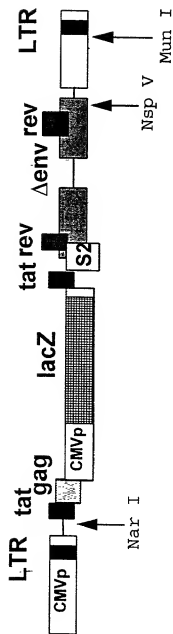


Figure 29

pONY4.0



pEMVA9

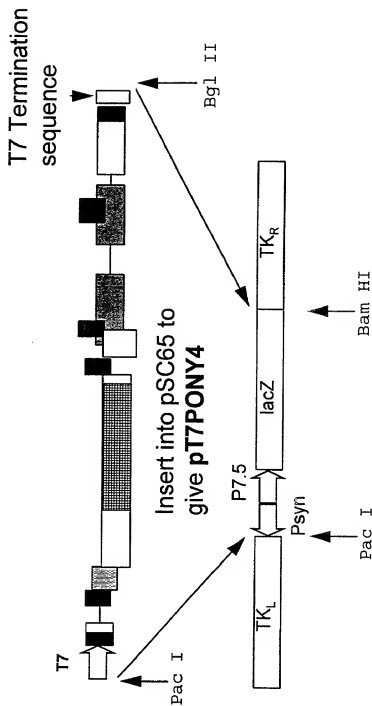


Figure 30

Figure 31

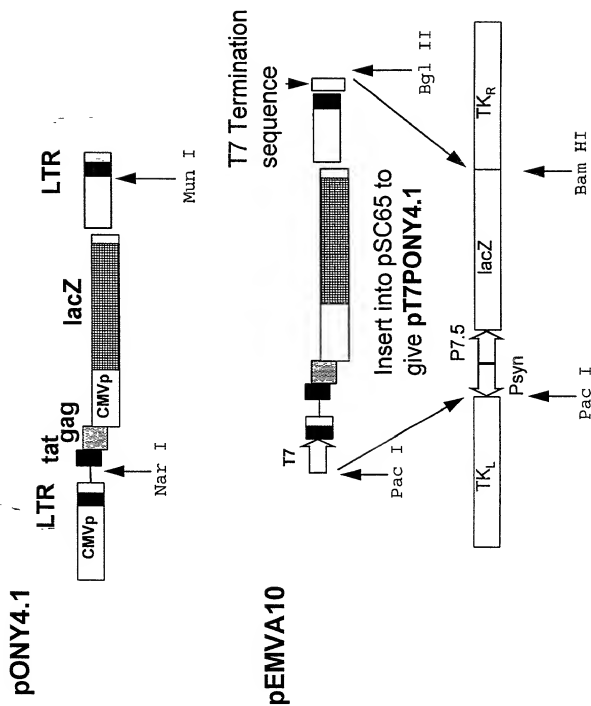


Figure 32

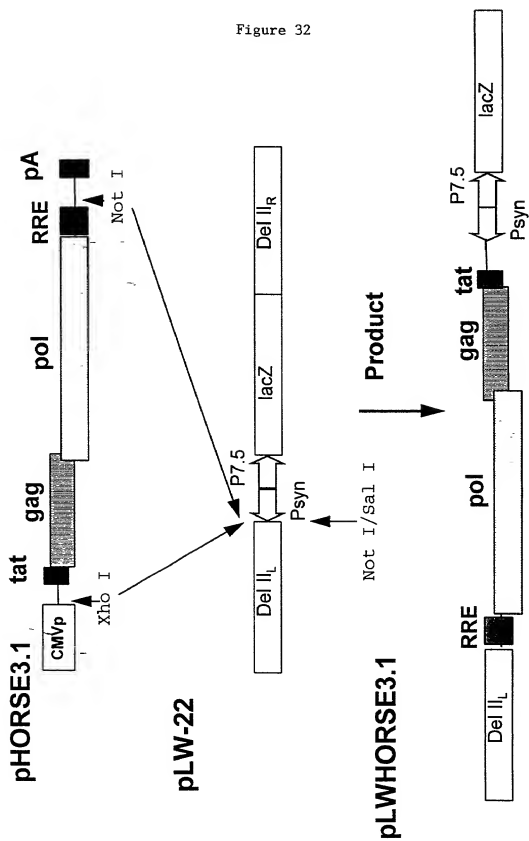


Figure 33

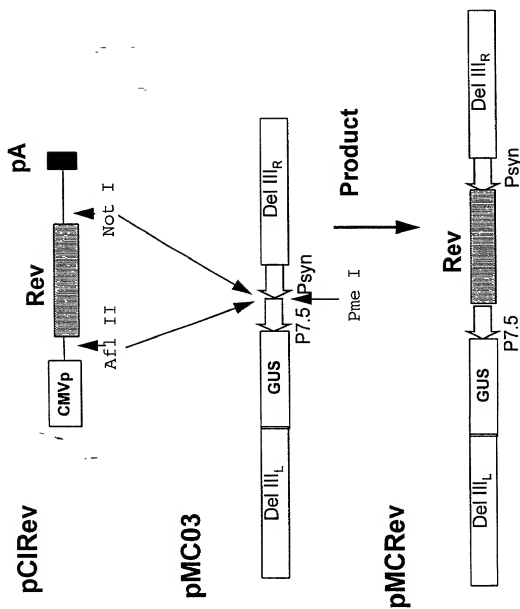


Figure 34

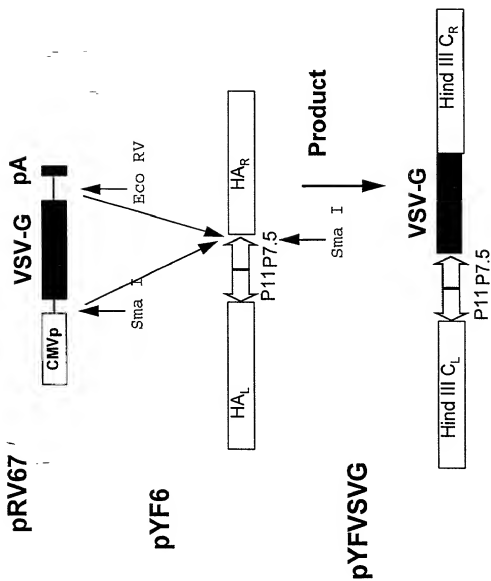
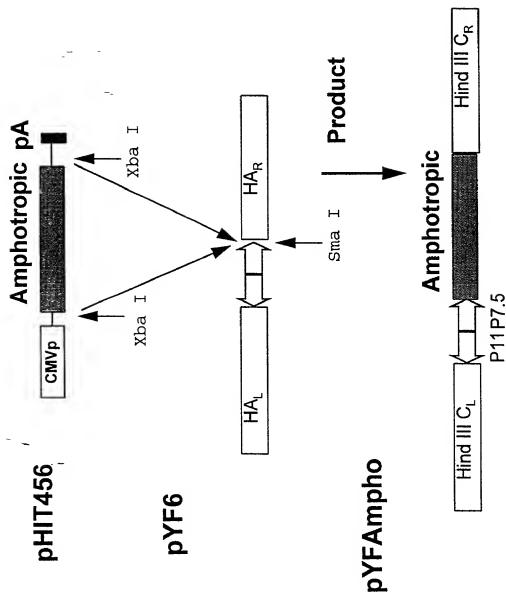


Figure 35



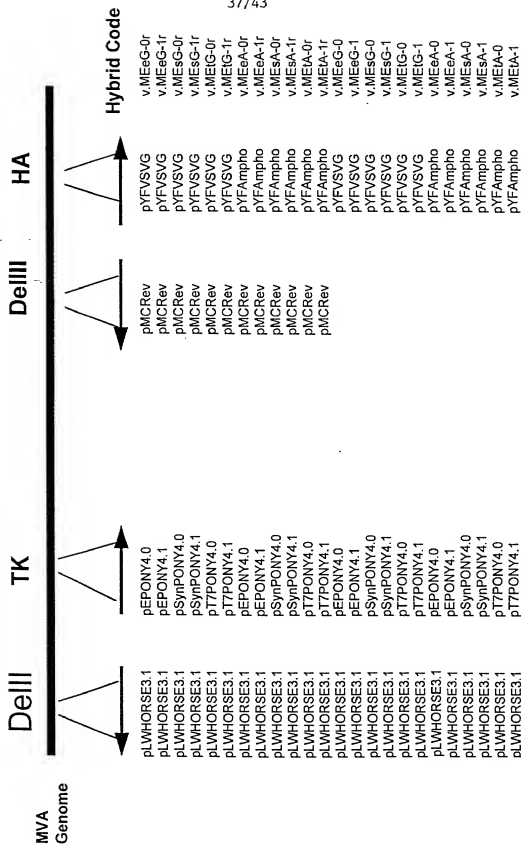


Figure 36

FIGURE 37

1/3

AGCTTTTGCAGATCAATAAATGGATCACCAACAGTATCTCTTAACGATGTTCTTCGCAGATGATGAT
 TCATTTTTTAAGTATTTGGCTAGTCAAGATGATGAAATCTTCATTATCTGATATATTGCAAAATCAC
 TCAATATCTAGACTTCTGTTATTATTATGATCCAATCAAAAAATAAATTAGAAGCCGTTGGGTCA
 TTGTTATGATCTCTTTACAGAGGAATACAGACAATTGACAAAATTCACAGACTTCTCAAGATTTTAA
 AAAATCGTTTACAAGGTCCTTATTGTTACAGATGGAAGGGTCAAACTTAATAAAGGATATTGTTGTT
 CGACTTTGTGATTAGTTTGTATGCGATTCAAAAAAGAAATCCTCTCTAGCTACCACCGCAATAGATCC
 TGTAGATACATAGATCCTCGTCGCAATATCGCATTTTCTAACGTGATGGATATATAAAGTCGAA
 TAAAGTGAACAATAATTAAATCTTTATTGTCATCATGAACGGCGGACATATTCAAGTTGATAATCGG
 CCCCATGTTTTTCAGGTAAAAGTACAGAATTAAATTAGACGAGTTAGACGTTATCAAAATAGCTCAATA
 TAAATGCGTGACTATAAAATATTCTAACGATAATAGATACGGAAACGGGACTATGGACGATGATAA
 GAATAATTTTGAAGCATTTGAAGCAACTAAACTATGTGATCTCTTGAATCAATTACAGATTTTCTC
 CGTGATAGGTATCGATGAAGGACAGTTCTTCCAGACATTTGTTGAATTAGATCGGATAAAAAATTAAT
 TAATTACCCGGGTACACGCGCTAGATCTGTCGACTTCGAGCTTATTTATATTCCAAAAAATAAATTA
 TAAATTTCAATTTTTAAGCTTTCACTAATTCACAAACCCACCCGCTTTTATAGTAAGTTTTCAC
 CCATAAATAATAATACATAAATAATTCTCGTAAAAGTGAATAATATTCTAATTTATTTGACAC
 GGTAAAGGAGTAGATCAATACTCGAGCATGGGAGATCCGTCGTTTACCAACGTCGTGACTGGGAA
 AACCCTGGCGTTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCGAGCTGGCGTAATAGC
 GAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTGCG
 TGTGTTCCCGCACCGAAGCGGTGCGGGAAAGCTGGCTGGATGCGATCTTCTCGAGGCGGATCACT
 TCGCTGCTCCCTCAAACTGGCAGATGCACGGTTACGATGCGCCCATCTACACCAACGTAACCTAT
 CCCATTACCGTCAATCCGCCGTTTGTCCACGCGAGAATCCGACGGGTTGTACTCGCTCACATTT
 AATGTTGATGAAGAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTGTGTCGTTAACTCGCG
 TTTTCATCTGTGTCACACGGCGCTGGGTGCTTACGCGCAGGACAGTCGTTTGGCGCTGTAATTT
 GACCTGAGCGCATTTTTACGCGCGGAGAAAACCGCCTCGCGGTGATGGTGTGCGTTGGAGTGAC
 GGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTCCGTGACGTCTGTTGCTG
 CATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTCAAGCGC
 GCTGTACTGGAGGCTGAAGTTTCAAGTGTGCGCGAGTTGCGTGACTACCTACGGGTAAACAGTTTCT
 TTATGGCAGGGTGAACACGAGGTCGCCAGCGGCACCGCGCTTTTCGGCGGTGAATTTATCGATGAG
 CGTGGTGGTTATGCCGATCGCGTCACTACGTCTCAACGTGAAAAACCGCAACTGTGGAGCGCC
 GAAATCCCGAATCTCTATCGTGGGTGGTTGAATGCACACCGCGCAGCGACGCTGATTGAAGCA
 GAAGCCTCGCATGTGCGTTTCCGCGAGGTGCGGATTGAAAAATGGTCTGCTGCTGTAACCGGCAAG
 CCGTTGCTGATTCTGAGGCGTTAACCGTCAAGAGCATCATCTCTGATGGTCAGGTCAAGTCTGTGAT
 CAGACGATGGTGCAGGATATCTGCTGATGAAGCAGAACTTTAAACGCGGTGCGCTGTTTCGCAT
 TATCCGAACCATCCGCTGGTGGTACACGCTGTGCGACCGCTACGCGCTGTATGTTGGTGAAGCC
 AATATTGAAACCCACCGCATGGTGCATGAATCGTTCACCGATGATCCGCGCTGGCTACCGCG
 ATGAGCGAACCGGTAAACCGGAAATGGTGCAGCGCATCGTAATCACCAGAGTGTGATCATCTGTGCTG
 CTGGGAGGATCAAGGCCACCGCGCTAATCAGCAGCGCTGATCGTGGATCAATCTGTGATGAT
 CCTTCCGCGCGGTGAGTATGAAGCGCGCGAGCGCACCAACCGGCCACCGATATTATTGTCGG
 ATGTACGCGCGGTGGATGAAGACCAAGCCCTTCCCGCTGTGCCGAATGGTCCATCAAAAAATGG
 CTTTTCGCTACCTGGAGAGACGCGCCGCTGATCCTTGTGGAATACGCCACGCGATGGGTAAACAGT
 CTTGGCGGTTTCGCTAAATACTGGCAGCGCTTTCGTCAGTATCCCGCTTACAGGGCGGCTTCGTC
 TGGAGTGGTGGATCAGTGCCTGATTAAATATGATGAAGAACGGCAACCGGTGGCTTCGCTTACGCG
 GGTGATTTTGGGATACGCGAAGCATCGCCAGTTCTGTATGAACGCTGTGGTCTTTCGCGACGCG
 ACGCGCATCCAGCGCTGACGGAAGCAAAACACGAGCAGAGTTTTTCAGTTCCGTTTATCCGGG

00057047-002001
 00057047-002001

Figure 37 cont. 2/3

CAAAACCATCGAAGTGACCAGCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCACTGGATG
GTGGCGCTGGATGTGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTGCGTCCACAAGGTAAA
CAGTTGATTGAACTGCCTGAACTACCGCAGCCGGAGAGCGCCGGGCAACTCTGGCTCAGCAGTACGC
GTAGTCAACCGGAACCGGACCCGATGGTCAGAAGCCGGGCACATCAGCGCTGGCAGCAGTGGCGT
CTGGCGGAAAAACCTCAGTGTGACGCTCCCCCGCGCTCCACGCCATCCCGCATCTGACCACCAGC
GAAATGGATTTTTGCATCGAGCTGGGTAAATAAGCGTTGGCAATTTAACCGCGCAGTCAGGCTTTCTT
TCACAGTGTGGATTGGCGATAAAAAACAACCTGCTGACCGCGCTGCGCGATCAGTTTACCCTGGCA
CCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATTGACCCATAACCGCTGGGTGCGAAGCG
TGAAGGCGGGCGGCCATTACCAGGCCGAAGCAGCGTTGTTGCACTGCACGCGATACACTTGCT
GATGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAAACCTTATTTATCAGCCGG
AAAACTACCGGATTGATGGTAGTGGTCAATGGCGATTACCGTTGATGTTGAAGTGGCAGCGAT
ACACCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGG
CTCGGATTAGGCGCGCAAGAAAACTATCCGACCGCCTTACTGCGCGCTGTTTTGACCGCTGGGAT
CTGCGATTGTGACAGCATGTATACCCCGTACGCTCTTCCGAGCGAAAAACGGTCTGCGCTGCGGACG
CGGAATTGAATTTATGCGCCACACCAGTGGCGCGCGACTTCCAGTTCAACATCAGCGCTACAGT
CAACGCAACTGTATGGAACACAGCCATCGCCATCTGCTGCACCGGAAGAGGCACATGGCTGAAT
ATCGACCGGTTTTCCATATGGGATTGGTGGCGACGACTCTGGAGCCCGTCAGTATTCGGCGGAATTC
AGCTGACCGCGGCTGCTACCATTACCAGTTGGTCTGGTGTCAAAAATAATTAACCGCGGAGGG
GGGATCCTTCTGTGAGCGTATGGCAACGAAGGAAAAATAGTTATGAGTCACTCATCTCGATGGGAC
ATTTCAACGTAAACCGTTTAAATAATATTTTGAATCTTATTCATTATCTGAAATGGTGGTAAAACT
AACTGCTGTGTATGAATGCTTTAAGGAGGCTTCTTTTCTAAACGATTGGGTGAGGAACCGCA
GATGAAATAATAGGAGGTAAATGATATGTATCAATCGGTGTAGAAAGTGTATCATCGATCAGCTATA
ATATTATATTTTTATCTAAAAAACTAAAAATAAACATTGATTAAATTTTAATATAATACTTAAAA
ATGGATGTTGTGCTGTAGATAAACCGTTTATGTATTTTGAAGAAATTGATAATGATGTAGATTGCT
GAACCAAGAAAGTCAAAATGAGGTGCAAAAAAACTGCCGTATCAAGGACAGTTAAAACTATTACTA
GGAGAATTATTTTTCTTAGTAAGTTACAGCGACACGGTATATTAGATGGTGCCACCGCTAGTGTAT
ATAGGATCTGCTCCCGGTACACATATACGTTATTTAGAGATCATTTCTATAATTTAGGAGTATC
ATCAATGGATGCTAATTGACGGCGCCCATCATGATCCTATTTTAAATGGATTGCGTGTATGACT
CTAGTGACTCGGTTGTTGATGAGGAATATCTACGATCCATCAAAAAACAACCTGCATCCTTCTAAG
ATTATTTTAAATTTCTGATGTGAGATCCAAACGAGGAGGAAATGAACCTAGTACGGCGGATTTACTA
AGTAATTAACGCTCTACAAAATGTCTGATTAGTATTTTAAACCCCGTGGCGCTAGTCTTAAATGG
AGATGCCGCTTCCAGATCAATGGATCAAGGACTTTTATCCACACCGTAATAAAATGTTACAA
CCTTTTGCTCCTCATATTCAGCTGAAATGAGATTATTAAGTATTTATACCGGTGAGAACCATGAGA
CTGACTCGGGCGCGGTTGCTGGCGTTTTTCCATAGGCTCCGCCCGCTGACGAGCATCAAAAAAT
CGACGCTCAAGTCAAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAAGCGGTTTCCCCTGGA
AGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCT
TCGGGAAGCGTAGCGGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTGCGGTGTAGGTGCTGCG
TCAAGCTGGCTGTGTGACGAACCCCGCTTCAGCCCGACCGCTGCGGCTTATCCGTTAACTAT
CGTCTTGATGCTCAACCCGTAAGCACGACTTATCGCATCCGACGAGCATCGGTAAACAGGATT
AGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACT
AGAAAGACAGTATTTGTAICTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAGAAAGAGTTGGTGA
TCTTGATCCGGCAAAACCAACCCGCTGGTAGCGGTGTTTTTTTGTGTTGCAAGCAGCAGATTACG
CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAAC
GAAAACCTCAGTTAAGGATTGTTGTCATGAGATTATCAAAAGGATCTTCACTAGATCTCTTTA
AATTAATAATGAAGTTTTAAATCAATCTAAAGTATATATAGTAACTTGGTCTGACAGTTACCAA
TGCTTAATCAGTGAGGCACTATCTCAGCGATCTGCTATTTCTGTTTATCCATAGTTGCGTGACTC
CCCGTCTGTAGATAACTACGATACGGGAGGCTTACCATCTGCGCCCGCTGCTGCAATGATACCG
CGAGACCCACGCTCACCGCTCCAGATTTATCAGCAATAAACACGCGCAGCGGAAGGGCCGAGCGC

AGAAGTGGTCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAAATTGTTGCCGGAAGCTAGAGTA
 AGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTGCAGGCATCGTGGTGTACGGC
 TCGTTCGTTGGTATGGCTTCATTAGCTCCGGTCCCAACGATCAAGGCGAGTTACATGATCCCCC
 ATGTTGTGCAAAAAAGCGTTAGCTCCTTCGGTCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCA
 GTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTTTACTGTTCATGCCATCCGTAAGATGC
 TTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCGACCGAGTTGC
 TCTTGCCCGCGCTCAACACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCATT
 GGAAGACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTTCGATGTA
 CCCACTCGTGCAACCAACTGATCTTCAGCATCTTTACTTTCCACAGCGTTTCTGGGTGAGCAAAA
 ACAGGAAGGCAAAATGCCGCAAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTC
 TTCCTTTTCAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAA
 TGTATTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCGAAAAGTGCCACCTGACGTC
 TAAGAAACCATTTATTATCATGACATTAACTTATAAAAAATAGGCGTATCACGAGGCCCTTTCGTCTT
 CGAATAAAATACCTGTGACGGAAGATCACTTCGCAGAAATAAAATCCTGGTGTCCCTGTTGATAC
 CGGGAAGCCCTGGGCCAACTTTTGGCGAAAATGAGACGTTGATCGGCACGTAAGAGGTTCCAACCTT
 TCACCATAATGAAATAAGATCACTACCGGGCGTATTTTGTAGTTATCGAGATTTTCAGGAGCTAA
 GGAAGCTAAAATGGAGAAAAAAATCACTGGATATACCACCGTTGATATATCCCAATGGCATCGTAA
 AGAACATTTTGAGGCATTTAGTCAGTTGCTCAATGTACCTATAACCAGACCGTTTCAG

Figure 37 cont. 3/3

Figure 38 1/3

CCTCCTGAAAACCTGGAATTTAATACACCATTGTGTTCATCATCAGACATGATATTACTGGATTT
 ATATTGTTTATGGGTAGGTTAGAAATCTCCTTAATATGGGTACGGTGTAAAGGAATCATTATTTTATT
 TATATTGATGGGTACGTGAAATCTGAATTTTCTTAATAAATATTATTTTATTAAATGTGTATATG
 TTGTTTTCGATAGCCATGTATCTACTAATCAGATCTATTAGAGATATTTAATTTCTGGTGCAAT
 ATGACAAAAATTATACACTAATTAGCTCTCGTTTCAGACATGGATCTGTACGAATTAATACCTTG
 GAAGTCTAAGCAGCTGAAAAGCTTTCTCTCTAGCAAAGATGCATTAAAGCGGATGCTCATGGACA
 TAGTGCCCTTGATTTATGCAATAGCTGATAATAACGTGCGTCTAGTATGTACGTTGTGAAACGCTGG
 AGCATTGAAAAATCTCTAGAGAATGAATTTCCATTACATCAGGCAGCCACATTGGAAAGATACCAA
 AATAGTAAAGATTTTGCTATTAGTGGAATGGATGATTCGAGGTACCCGATCCCCCTGCGCGGT
 TATTATTATTTTGAACACCAGACCAACTGGTAATGGTAGCGACCGCGCTCAGCTGAATTCGCGG
 ATACTGACGGGCTCCAGGAGTCTGTCGCCACCAATCCCCATATGGAAACCGTCGATATTTCAGCCATG
 TGCCTTCTTCGCGGTGCGAGCAGATGGCGATGGCTGGTTTCCATCAGTTGCTGTTGACTGTAGCGGC
 TGATGTTGAAGTGGAAAGTTCGCCGCGCACTGGTGTGGGCCATAATCAATTGCGCGCTCCGCGAGC
 CGAGACCGTTTTCGCTCGGGAAGACGTACGGGTATACATGTCTGCAAAATGGCAGATCCAGCGGT
 CAAAACAGCGCGCAGTAAAGCGGTGCGGATAGTTTTCTTGGCGCCCTAATCCGAGCCAGTTTACCC
 GCTCTGCTACCTGCGCCAGCTGGCAGTTTCAGGCCAATTCGCGCGGATGCGGTTGATCTGCTCGCCA
 CTTCACATCAACCGGTAAATCGCCATTGACCACTACCATCAATCCGGTAGGTTTTCGGGCTGATAA
 ATAAGGTTTTCCTGATGCTGCCAGCGGTGAGCGGTGTAATCAGCACCGCATCAGCAAGGTGAT
 CTGCGGTGCACTGCAACAACGCTGCTTTCGGCTGGTAATGGCCCGCGCCTTCACAGCTTCGACCC
 AGGCGTTAGGTTCAATGCGGGTCTGCTTCACTTACGCCAATGTCGTTATCCAGCGGTGACGCGGTGA
 ACTGATCGCGCAGCGCGGTGAGCAGTTGTTTTTATCGCCAATCCACATCTGTGAAAGAAAGCCTG
 ACTGGCGGTTAAATTCGCAACGCTTATTACCCAGCTCGATGCAAAAATCCATTTCGCTGGTGGTCA
 GATGCGGGATGGCGTGGGACGCGCGGGGAGCGTCACACTGAGGTTTTCGCGCCAGACGCCACTGCT
 GCCAGGCGCTGATGTGCCCGGCTTCTGACCATGCGGTCGCGTTGCGTTGCACTAGCGGTACTGTGA
 GCCAGAGTTGCCCGCGCTCTCCGGCTGCGTAGTTTCAGGCAGTTCAATCACTGTTTACCTGTG
 GAGCGACATCCAGAGGCACTTACCCTGTCGCGCGGCTTACCATCCAGCGCCACCATCCAGTGCA
 GGAGCTCGTTATCGCTATGACGGAACAGGTATTTCGCTGGTCACTTCGATGGTTTCCCGGATAAAC
 GGAATGGAAAACTGCTGCTGGTGTGTTTTCGCTTCGCTGAGCGCTGGATGCGGCTGCGGTGCGCAA
 AGACAGACCGTTTCATACAGAACTGGCGATCGTTTCGGCGATTCGCAAAAATCACCGCGTAAAGCCG
 ACCACGGGTTGCGGTTTTTCATCATATTTAATCAGCGACTGATCCACCCAGTCCCAGACGAAGCCG
 CCTGTAAACGGGGATACTGACGAAACCGCTGCCAGTATTAGCGAAACCGCAAAGCTTTTACCCA
 TCGCGTGGGCGTATTTCGCAAGGATCAGCGGGCGCTCTCTCCAGGTAGCGAAAGCCATTTTGA
 TGGACATTTTCGACACAGCGGGAAGGCTGGTCTTCATCCACGCGCGGTACATTCGGGCAATAA
 TATCGGTGGCGGTGGTGTGCGGCTCCGCGCCTTCATCTGACACGCGGCGGAAGGATCGACAGATT
 TGATCCAGGATACAGCGCTGCTGATTAGCGCGGTGGCGCTGATTCAATCCCAGCGACCATGATGA
 TCACACTCGGGTGATTACGATCGCGCTGCACCATTCGCGTTACGCGTTTCGCTCATCGCGGTAGCC
 AGCGCGGATCATCGGTGAGACGATTATGGCACCATGCGGTGGTTTCAATATTGGCTTCATCCA
 CCACATACAGGCCGTGACGCTGCGACAGCGGTGACCAAGCGGATGGTTCGGATATGCGGAACAGC
 GCACGCGGTTAAAGTTGTTCTGCTTCATCAGCAGGATATCTGCAACCATCGTCTGCTCATCCATGA
 CCTGACCATGCAAGGATGATGCTGTCGACGGTTAAGCGCTCGAATCAGCAAGCGGTTCCGCTTCA
 GCAGCAGCAGACCATTTTCAATCCGCACTTCGCGGAAACCGACATCGCAGGCTTCTGCTTCAATCA
 CGCTGCGCTGCGCGGTGTGCACTTCAACCCAGCAGATAGAGATTTCGGGATTTTCGGCGCTCCACA
 GTTTTCGGGTTTCAGCGTTGAGACGTAGTGTGACGCGATCGGCATAACCAACGCGCTCATGCAATA
 TTTCAACGCGGAAGGGCGCGGTGCGCTGCGACCTTCGCTTTCACCTGCCATAAAGAACTGTTA

Figure 38 cont 2/3

GCAGCACCATCACCGGAGGCGGTTTCTCCGCGCGTAAAAATGCGCTCAGGTCAAATTCAGACG
 GCAAAACGACTGCTCTGGCCGTAAACGACCCAGCGCCGCTTGACACAGATGAAACGCCGAGTTAA
 CGCCATCAAAAATAATTGCGCTCTGGCTTCTGTAGCCAGCTTTCATCAACATTAAATGTGAGCG
 AGTAACAACCCGTCGGATTCTCCGTGGGAACAAACGCGGATTGACCGTAATGGGATAGGTTACGT
 TGGTGTAGATGGGCGCATGTAACCGTGCATCTGCGCAGTTTGAGGGGACGACGAGTATCGGCCCT
 CAGGAAGATCGACCTCCAGCCAGCTTTCGGGACCGCTTCTGTGTCGGAAACCCAGGCAAGCGCC
 ATTGCGCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCTCTCTCGCTATTACGCC
 AGCTCGCGAAAGGGGGATGTGCTGCAAGGCGATTAAAGTTGGGTAACGCCAGGGTTTCCCACTCAC
 GACGTTGTAACACGACGGGATCTCCCATGCTCGAGTTATGATCTACTTCTTACCCTGCAATAAAT
 TAGAATATATTTTCTACTTTTACGAGAAATTAATATTGTATTATTATTATGGGTGAAAACTT
 ACTATAAAAAGCGGGTGGGTTTGGAAATAGTGAAAGCTGGGAGATCTGGCGCGCTGCAGAGAATT
 CGTTTAAACGGATCCCGAGCTTATTATATTCAAAAAATAAATTAATTTCAATTTTAAAGCT
 GGGGATCCTCTAGAGTCGACCTGCAGGCGATGCTCGAGCGCGCCAGTGTGATGGATATCTGCAGA
 ATTGCGCTTGGGGGGCTGCAGGTGGATGCGATCATGACGCTCTCTGCAATGGATAACAATGAACCT
 AAAGTACTAGAAATGGTATATGATGCTACAATTTTACCGAAGGTAGTAGCATGGATTGTATAAAC
 AGACACATCAATATGTGTATACAAACGCACTATAGTTCTAGTATAATTGGCCATTGGATAGATTCT
 CTAATGATGAACAGGATGAACATAAATAACACAGTGTCAATATAATTAAGAAATTTATGACATAC
 GAACAAATGGCGATTGACCATTATGGAGAATATGTAAACGCTATTCTATATCAATTTGCTAAAGA
 CCTTAATCAACATCACACCATTAATCTGTTTAAAAAATAAAGAACCCTGGTATGACACTTTTAAAG
 GTGGATCCCGTAGAATTCGTAAAAAAGTTATCGGATTGTATCTATCTTGAACAAATATAAACCG
 TTTTATAGTTACGCTCTGTACGAGAACGCTCTGTACGATGAGTTCAAATGTTTCCATTTGACATGTG
 GAACTAAGTATTTCTAAATTAATGATGCATTAATTTTGTATTGATCTCAATCCTAAAAACTA
 AAATATGAATAAGTATTAACATAGCGGTGTAATAATTGATTTAAACATAAAAAATAGTTTAACT
 AATCATGAGGACTCTACTTATTAGATATATCTTTGGAGAAATGACAACGATCAACCCGGCATGC
 AAGCTTGTCTCCCTATAGTGAGTCGTATTAGAGCTTGGCGTAATCATGGTCATAGCTGTTTCCGTG
 GTGAAATTTGTTATCCGCTCACAAATCCACACAACATACGAGCCGGAAGCATAAAGGTAAAGCGCTG
 GGTGCTCAATGAGTGAGCTAACTCACATTAATTTGCGCTGCGCTCACTGCCCCCTTTCGAGTCGGG
 AAACCTCTGCTGCCAGCTGCAATTAATGAATCGGCCAACGCGCGGGAGAGGCGGTTTGGCTATTGG
 GCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTGTTTGGCTGCGCGGAGCGGTATC
 AGCTCACTCAAAGCGGTAAATACGGTTATCCACAGAAATCAGGGGATAACCGAGGAAAGAACTATGTG
 AGCAAAAGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGCGCTTTTTCGATAGGCT
 CCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT
 ATAAAGATCCAGGCGTTTCCCGCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCGCGCT
 TACCGGATACCTGTGCGCTTCTCCCTTCCGGAAGCGTGGCGCTTTTCTCATAGCTCACGCTGTAG
 GTATCTCAGTTCGGTGTAGGTCTGTTGCTCCAGCTGGGCTGTGTGACGAAACCCCGCTTCAGCC
 CGACCGCTCGCGCTTATCCGGTAACATCTGCTTGTAGTCCAACCGGTAAAGACACAGCTATTACGCC
 ACTGGCAGCAGCCTCTGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT
 GAGTAACTTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGACTGTGCT
 ATTTCTGTTCAATCATAGTTGCTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGCGCTTACC
 ATCTGCGCCCGAGTGTGCAATGATACCGGAGAGCCACGCTCACCGGCTCCAGATTATCAGCAAT
 AAACCGCCAGCCGAAAGGGCCGAGCGCAGAGATGGTCTGCAACTTTTCCGCTCCATCCGCTC
 TATTAATTTGTTGCCGGGAAGCTAGAGTAAGTAGTTCCGCGATTAAATAGTTTGGCCAACTGTTGTGG

Figure 38 cont., 3/3

ACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCCTCC
GATCGTTGTGAGAAAGTAAGTTGGCCGCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTC
TCTTACTGTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTG
AGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCCGGCGTCAATACGGGATAATACCGCGCCACA
TAGCAGAACTTTAAAAGTGCTCATCATTTGGAAGCGTTCTTCGGGGCGAAAACTCTCAAGGATCTT
ACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCAACCCAACTGATCTTCAGCATCTTTTAC
TTTCAACGAGCTTTCTGGGTGAGCAAAAAACAGGAAGGCAAAATGCCGCAAAAAAGGGAATAAGGGC
GACACGGAATGTTGAATACTCATACTCTTCCTTTTCAATATTATTGAAGCATTTATCAGGGTTA
TTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCAC
ATTTCCCCGAAAAGTGCCACCTGACGTCTAAGAAACCAATTATTATCATGACATTAAACCTATAAAAA
TAGGCGTATCACGAGGCCCTTTCTGCTCGCGCGTTTCGGTGATGACGGTGAAAACTCTGACACAT
GCAGCTCCCGGAGACGGTACAGCTTGTCTGTAAGCGGATGCGGGGAGCAGACAAGCCCGTCAGGG
CGCGTCAGCGGGTGTGGCGGGGTGTCGGGGCTGGCTTAAGTATGCGGCATCAGAGCAGATTGTA
GAGAGTGCAACCATATGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCATCAGGCG
CCATTGCGCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCTCTTCGCTATTACG
CCAGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAAGTTGGGTAAACCCAGGGTTTTCCAGTC
ACGACGTTGTAAAAACGACGGCCAGTGAATTGGATTAGGTGACACTATAGAATACGAATTC